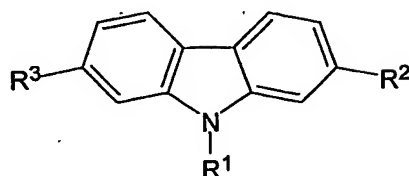


WHAT IS CLAIMED IS:

1. A compound of Formula I:

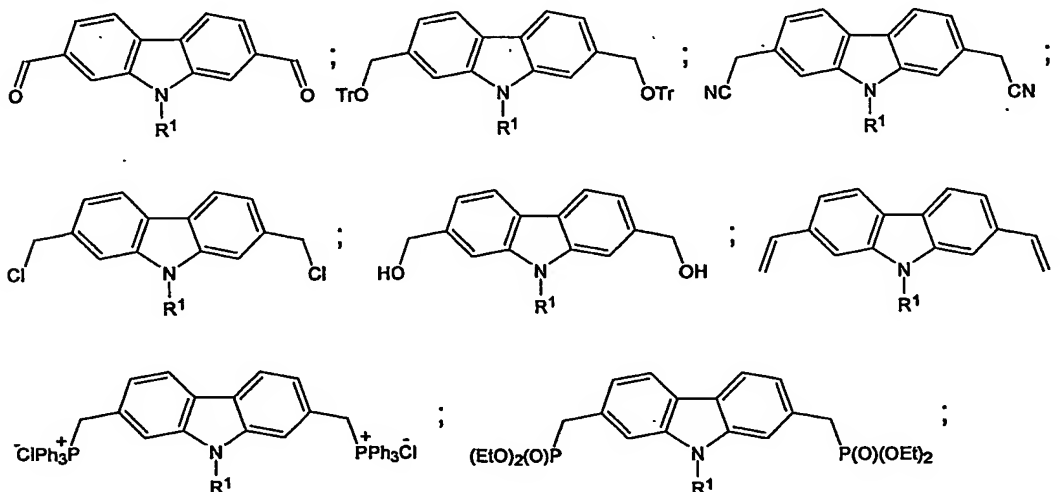
**Formula I**

- 5 wherein:

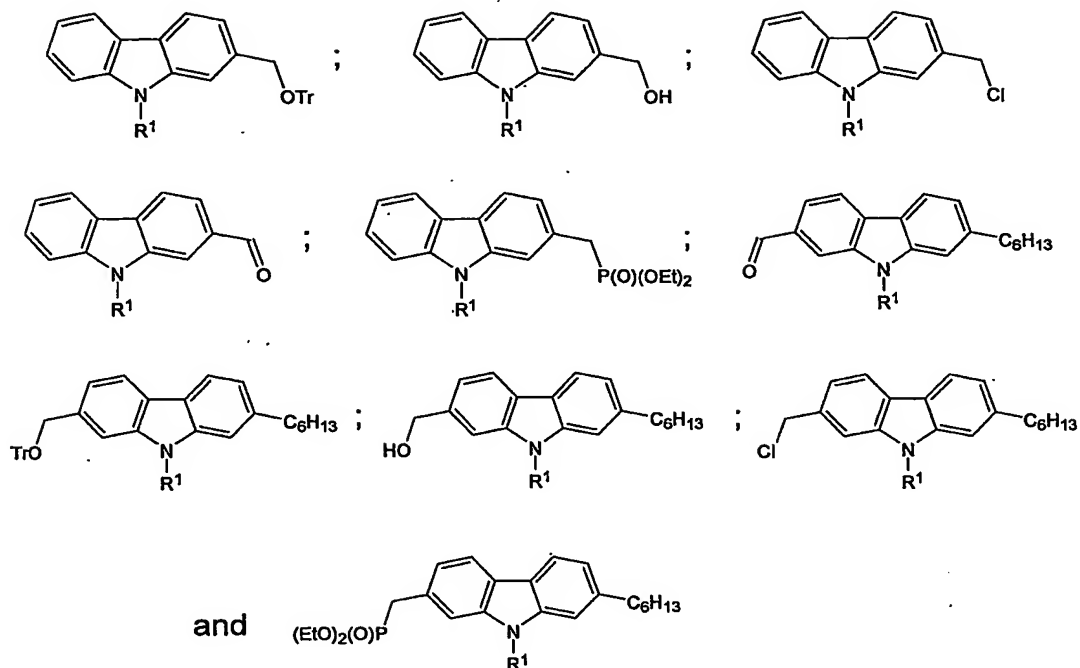
R^1 is selected from the group consisting of H, alkyl, and aryl;

R^2 and R^3 are independently selected from the group consisting of H, alkyl, formyl, hydroxymethyl, trityloxymethyl, acetonitrile, chloromethyl, methylphosphonate, methyltriphenylphosphonium and vinyl.

- 10 2. A compound as defined in claim 1, selected from the group consisting of:

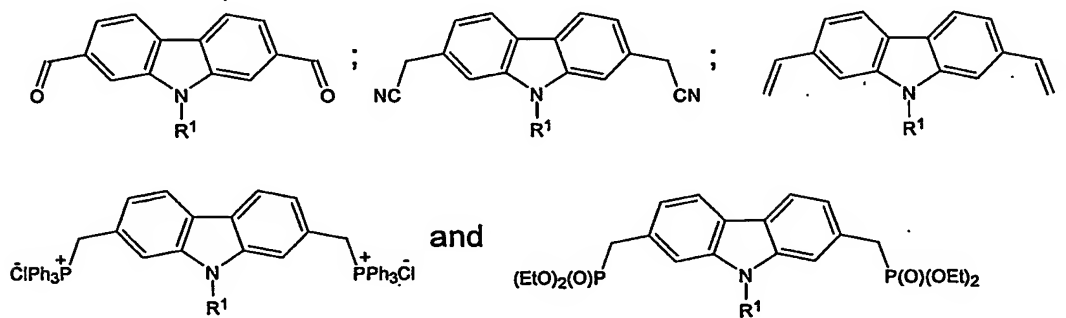


41



wherein R^1 is as previously defined.

3. A compound as defined in claim 1, selected from the group consisting of:

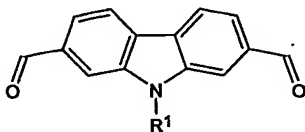


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wherein R^1 is as previously defined.

42

4. A compound as defined in claims 2 and 3 having the formula:



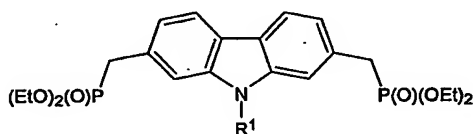
wherein R¹ is alkyl.

5. A compound as defined in claim 4, wherein R¹ is hexyl or 2-ethylhexyl.

6. A compound as defined in claim 4, wherein R¹ is aryl.

7. A compound as defined in claim 4, wherein R¹ is 4-octyloxyphenyl.

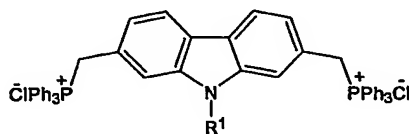
8. A compound as defined in claims 2 and 3 having the formula:



wherein R¹ is alkyl.

9. A compound as defined in claim 8, wherein R¹ is hexyl or 2-ethylhexyl.

10. A compound as defined in claims 2 and 3 having the formula:



wherein R¹ is alkyl.

11. A compound as defined in claim 10, wherein R¹ is 2-ethylhexyl.

43

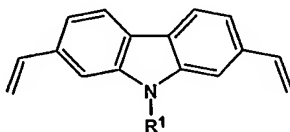
12. A compound as defined in claims 2 and 3 having the formula:



wherein R¹ is alkyl.

13. A compound as defined in claim 12, wherein R¹ is 2-ethylhexyl.

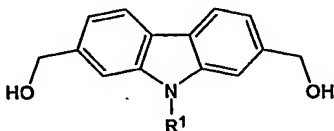
14. A compound as defined in claims 2 and 3 having the formula:



wherein R¹ is alkyl.

15. A compound as defined in claim 14, wherein, R¹ is 2-ethylhexyl.

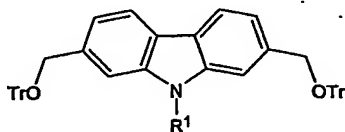
16. A compound as defined in claim 2 having the formula:



wherein R¹ is alkyl.

17. A compound as defined in claim 16, wherein R¹ is hexyl or 2-ethylhexyl.

18. A compound as defined in claim 2 having the formula:



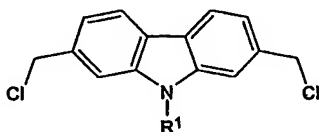
wherein R¹ is H or alkyl.

19. A compound as defined in claim 18, wherein R¹ is hexyl or 2-ethylhexyl.

20. A compound as defined in claim 18, wherein R¹ is aryl.

5 21. A compound as defined in claim 20, wherein R¹ is 4-octyloxyphenyl.

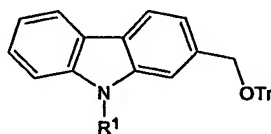
22. A compound as defined in claim 2 having the formula:



wherein R¹ is alkyl.

10 23. A compound as defined in claim 22, wherein R¹ is hexyl.

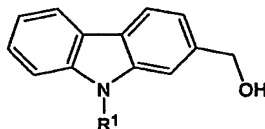
24. A compound as defined in claim 2 having the formula:



wherein R¹ is H or alkyl.

25. A compound as defined in claim 24, wherein R¹ is hexyl.

15 26. A compound as defined in claim 2 having the formula:

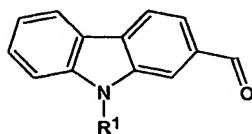


wherein R¹ is alkyl.

27. A compound as defined in claim 26, wherein R¹ is hexyl.

45

28. A compound as defined in claim 2 having the formula:

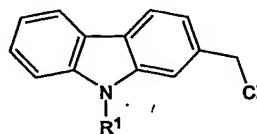


wherein R¹ is alkyl.

29. A compound as defined in claim 28, wherein R¹ is hexyl.

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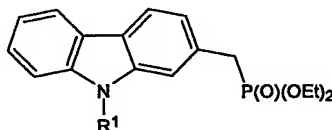
30. A compound as defined in claim 2 having the formula:



wherein R¹ is alkyl.

31. A compound as defined in claim 30, wherein R¹ is hexyl.

32. A compound as defined in claim 2 having the formula:

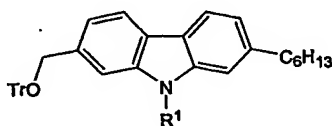


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wherein R¹ is alkyl.

33. A compound as defined in claim 32, wherein R¹ is hexyl.

34. A compound as defined in claim 2 having the formula:



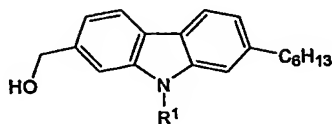
15

wherein R¹ is H or alkyl.

35. A compound as defined in claim 34, wherein R¹ is methyl.

46

36. A compound as defined in claim 2 having the formula:

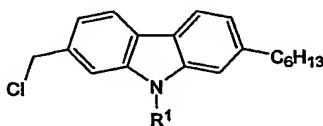


wherein R¹ is alkyl.

37. A compound as defined in claim 36, wherein R¹ is methyl.

5

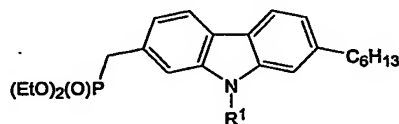
38. A compound as defined in claim 2 having the formula:



wherein R¹ is alkyl.

39. A compound as defined in claim 38, wherein R¹ is methyl.

40. A compound as defined in claim 2 having the formula:

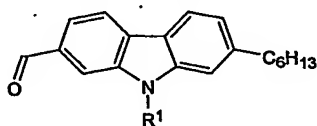


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wherein R¹ is alkyl.

41. A compound as defined in claim 40, wherein R¹ is methyl.

42. A compound as defined in claim 2 having the formula:



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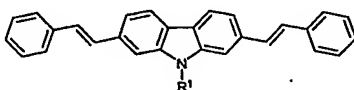
wherein R¹ is alkyl.

43. A compound as defined in claim 42, wherein R¹ is methyl.

47

44. An oligomer comprising the reaction product of a first compound of Formula I and at least a second compound, said second compound being either a compound of Formula I; benzaldehyde; 5,5'-diformyl-2,2'-bithiophene, 4-bromo-1,1'-biphenyl; benzyl cyanide; or 1,4-bis(methylphosphonate)benzene.

45. An oligomer as defined in claim 44 having the formula:



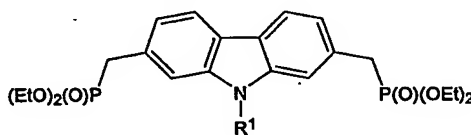
wherein R¹ is selected from the group consisting of H, alkyl, and aryl.

46. An oligomer as defined in claim 45, wherein R¹ is alkyl.

10 47. An oligomer as defined in claim 46, wherein R¹ is hexyl or 2-ethylhexyl.

48. An oligomer as defined in claim 47, wherein R¹ is hexyl.

49. An oligomer as defined in claim 45 wherein the first compound of Formula I is of the formula:



15

wherein R¹ is selected from the group consisting of H, alkyl, and aryl.

50. An oligomer as defined in claim 49, wherein R¹ is alkyl.

51. An oligomer as defined in claim 50, wherein R¹ is hexyl or 2-ethylhexyl.

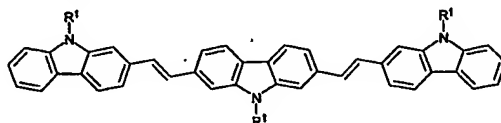
20

52. An oligomer as defined in claim 51, wherein R¹ is hexyl.

48

53. An oligomer as defined in any one of claims 45 to 52, wherein the second compound is benzaldehyde.

54. An oligomer as defined in claim 44 having the formula:



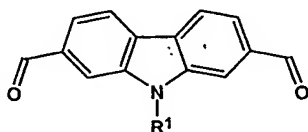
5 wherein R¹ is selected from the group consisting of H, alkyl, and aryl.

55. An oligomer as defined in claim 54, wherein R¹ is alkyl.

56. An oligomer as defined in claim 55, wherein R¹ is hexyl or 2-ethylhexyl.

57. An oligomer as defined in claim 56, wherein R¹ is hexyl.

10 58. An oligomer as defined in claim 54 wherein the first compound of Formula I is of the formula:



wherein R¹ is selected from the group consisting of H, alkyl, and aryl.

59. An oligomer as defined in claim 58, wherein R¹ is alkyl.

15 60. An oligomer as defined in claim 59, wherein R¹ is hexyl or 2-ethylhexyl.

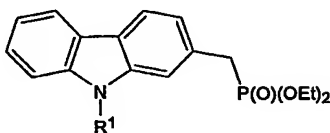
61. An oligomer as defined in claim 59, wherein R¹ is hexyl.

62. An oligomer as defined in claim 58, wherein R¹ is aryl.

20 63. An oligomer as defined in claim 62, wherein R¹ is 4-octyloxyphenyl.

49

64. An oligomer as defined in claim 54 wherein the second compound of Formula I is of the formula:



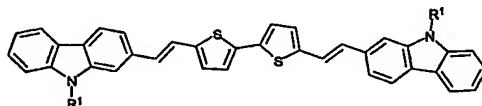
wherein R¹ is selected from the group consisting of H, alkyl, and aryl.

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65. An oligomer as defined in claim 64, wherein R¹ is alkyl.

66. An oligomer as defined in claim 65, wherein R¹ is hexyl.

67. An oligomer as defined in claim 44 having the formula:



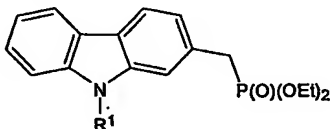
wherein R¹ is selected from the group consisting of H, alkyl, and aryl.

10

68. An oligomer as defined in claim 67, wherein R¹ is alkyl.

69. An oligomer as defined in claim 68, wherein R¹ is hexyl.

70. An oligomer as defined in claim 67 wherein the first compound of Formula I is of the formula:



15

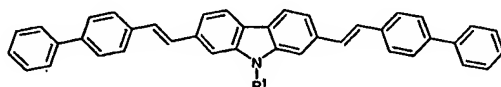
wherein R¹ is selected from the group consisting of H, alkyl, and aryl.

71. An oligomer as defined in claim 70, wherein R¹ is alkyl.

72. An oligomer as defined in claim 71, wherein R¹ is hexyl.

73. An oligomer as defined in any one of claims 67 to 72, wherein the second compound is 5,5'-diformyl-2-2'bithiophene.

74. An oligomer as defined in claim 44 having the formula:

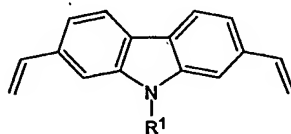


5 wherein R¹ is selected from the group consisting of H, alkyl, and aryl.

75. An oligomer as defined in claim 74, wherein R¹ is alkyl.

76. An oligomer as defined in claim 75, wherein R¹ is 2-ethylhexyl.

10 77. An oligomer as defined in claim 74 wherein the first compound of Formula I is of the formula:



wherein R¹ is selected from the group consisting of H, alkyl, and aryl.

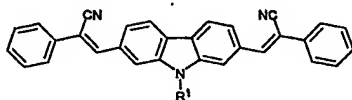
78. An oligomer as defined in claim 77; wherein R¹ is alkyl.

15 79. An oligomer as defined in claim 78, wherein R¹ is 2-ethylhexyl.

80. An oligomer as defined in any one of claims 74 to 79, wherein the second compound is 4-bromo-1,1'biphenyl.

51

81. An oligomer as defined in claim 44 having the formula:



wherein R^1 is selected from the group consisting of H, alkyl, and aryl.

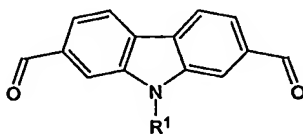
82. An oligomer as defined in claim 81, wherein R^1 is alkyl.

- 5 83. An oligomer as defined in claim 82, wherein R^1 is hexyl or 2-ethylhexyl.

84. An oligomer as defined in claim 81, wherein R^1 is aryl.

85. An oligomer as defined in claim 84, wherein R^1 is 4-octyloxyphenyl.

- 10 86. An oligomer as defined in claim 81 wherein the first compound of Formula I is of the formula:



wherein R^1 is selected from the group consisting of H, alkyl, and aryl.

87. An oligomer as defined in claim 86, wherein R^1 is alkyl.

- 15 88. An oligomer as defined in claim 87, wherein R^1 is hexyl or 2-ethylhexyl.

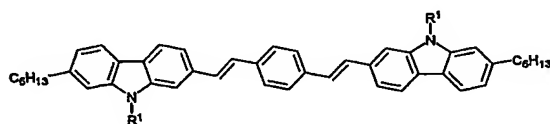
89. An oligomer as defined in claim 88, wherein R^1 is hexyl.

90. An oligomer as defined in claim 86, wherein R^1 is aryl.

91. An oligomer as defined in claim 90, wherein R¹ is 4-octyloxyphenyl.

92. An oligomer as defined in any one of claims 81 to 91, wherein the second compound is benzyl cyanide.

5 93. An oligomer as defined in claim 44 having the formula:

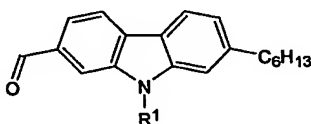


wherein R¹ is selected from the group consisting of H, alkyl, and aryl.

94. An oligomer as defined in claim 93, wherein R¹ is alkyl.

95. An oligomer as defined in claim 94, wherein R¹ is methyl.

10 96. An oligomer as defined in claim 93, wherein the first compound of Formula I is of the formula:



wherein R¹ is selected from the group consisting of H, alkyl, and aryl.

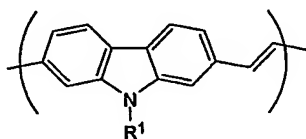
97. An oligomer as defined in claim 96, wherein R¹ is alkyl.

15 98. An oligomer as defined in claim 97, wherein R¹ is methyl.

99. An oligomer as defined in any one of claims 93 to 98, wherein the second compound is 1,4-(bis)methylphosphonate)benzene.

100. A polymer comprising the reaction product of a compound of Formula I and optionally at least one compound selected from the group consisting of 2,5-dioctyloxy-1,4-diformylbenzene; 2,5-bis(diphenylamino)terephthaldicarboxaldehyde; {4-(2-ethylhexyloxy)-phenyl]-bis-(4'formylphenyl); 6,6'-dibromo-2,2'-bis(2"-ethylhexyloxy)-1,1'-binaphthyl; and 3-hexyl-2,5-bis(methylphosphonate)thiophene.

101. A polymer as defined in claim 100, comprising monomeric groups of the formula:



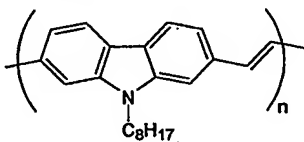
102. wherein R¹ is selected from the group consisting of H, alkyl, and aryl.

103. A polymer as defined in claim 101, wherein R¹ is alkyl.

104. A polymer as defined in claim 102, wherein R¹ is hexyl or 2-ethylhexyl.

105. A polymer as defined in claim 103, wherein R¹ is 2-ethylhexyl.

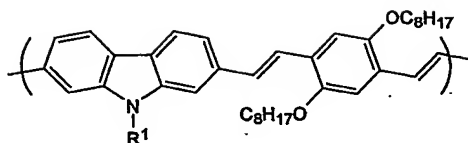
106. A polymer as defined in claim 104 having the formula:



wherein "n" is an integer ranging from 5 to 100.

107. A polymer as defined in claim 100, comprising monomeric groups of the formula:

54



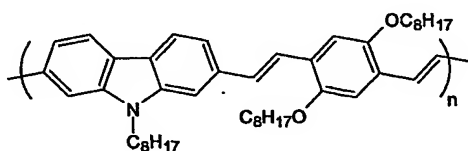
wherein R¹ is selected from the group consisting of H, alkyl, and aryl.

107. A polymer as defined in claim 106, wherein R¹ is alkyl.

108. A polymer as defined in claim 107, wherein R¹ is hexyl or 2-ethylhexyl.

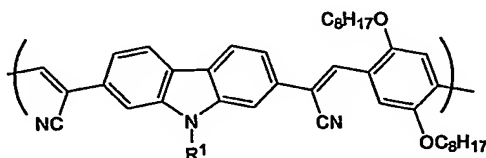
109. A polymer as defined in claim 108, wherein R¹ is 2-ethylhexyl.

110. A polymer as defined in claim 109 having the formula:



wherein "n" is an integer ranging from 5 to 100.

111. A polymer as defined in claim 100, comprising monomeric groups of the formula:



wherein R¹ is selected from the group consisting of H, alkyl, and aryl.

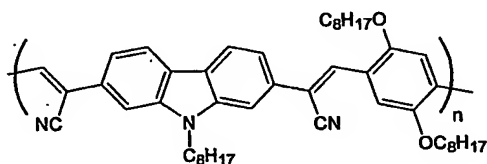
112. A polymer as defined in claim 111, wherein R¹ is alkyl.

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113. A polymer as defined in claim 112, wherein R¹ is hexyl or 2-ethylhexyl.

114. A polymer as defined in claim 113, wherein R¹ is 2-ethylhexyl.

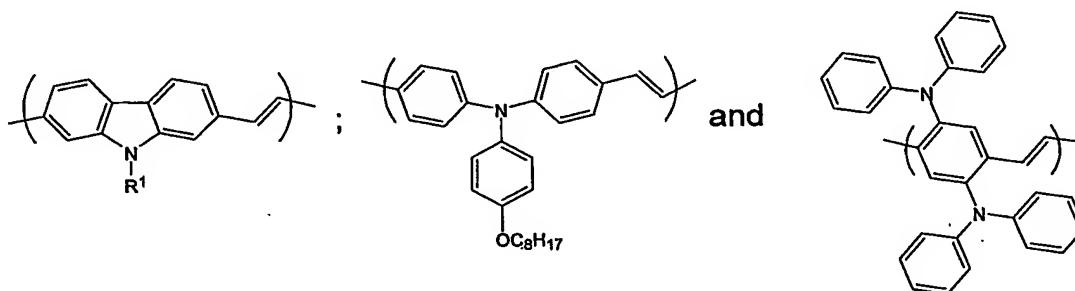
115. A polymer as defined in claim 114 having the formula:



5

wherein "n" is an integer ranging from 5 to 100.

116. A polymer as defined in claim 100, comprising monomeric groups of the formula:



10 wherein R¹ is selected from the group consisting of H, alkyl, and aryl.

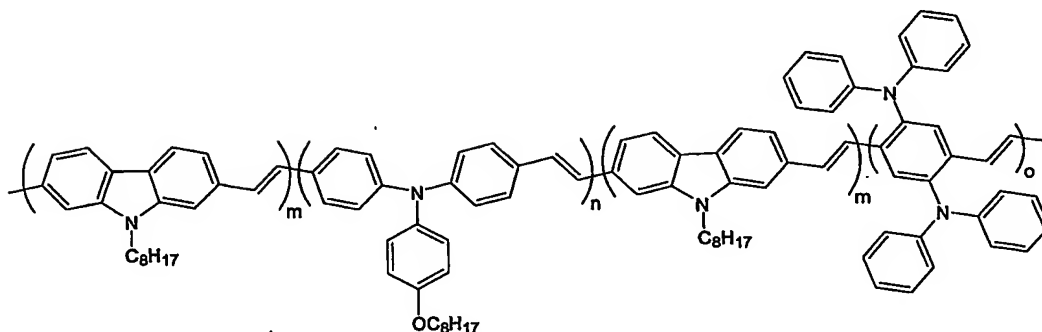
117. A polymer as defined in claim 116, wherein R¹ is alkyl.

118. A polymer as defined in claim 117, wherein R¹ is hexyl or 2-ethylhexyl.

119. A polymer as defined in claim 118, wherein R¹ is 2-ethylhexyl.

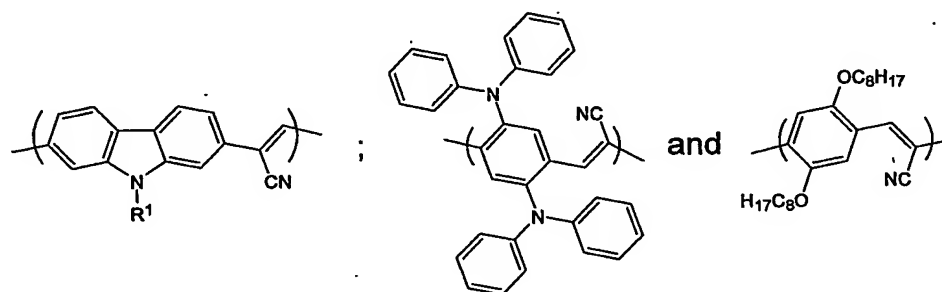
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120. A polymer as defined in claim 119 having the formula:



wherein "n", "m", and "o" are integers ranging from 5 to 100.

121. A polymer as defined in claim 100, comprising monomeric
5 groups of the formula:



wherein R¹ is selected from the group consisting of H, alkyl, and aryl.

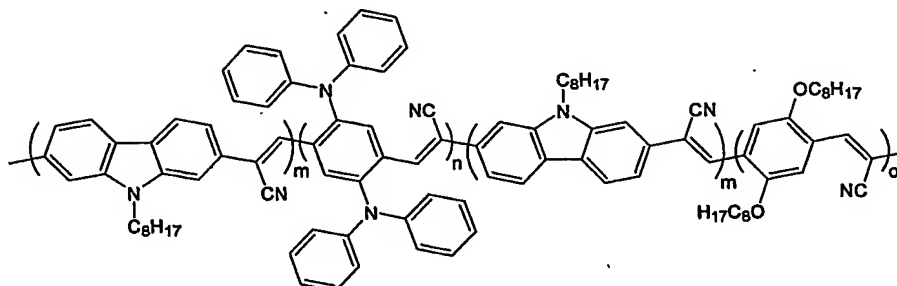
122. A polymer as defined in claim 121, wherein R¹ is alkyl.

123. A polymer as defined in claim 122, wherein R¹ is hexyl or 2-
10 ethylhexyl.

124. A polymer as defined in claim 123, wherein R¹ is 2-ethylhexyl.

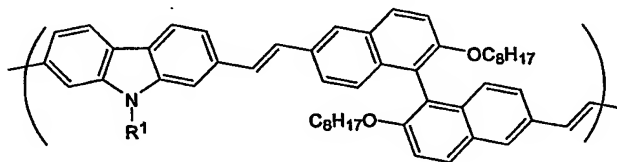
57

125. A polymer as defined in claim 124 having the formula:



wherein "n", "m", and "o" are integers ranging from 5 to 100.

126. A polymer as defined in claim 100, comprising monomeric
5 groups of the formula:



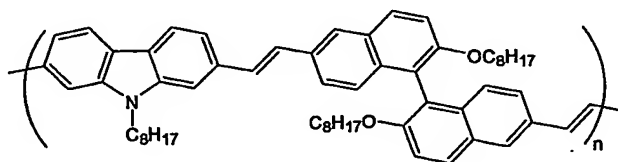
wherein R¹ is selected from the group consisting of H, alkyl, and aryl.

127. A polymer as defined in claim 126, wherein R¹ is alkyl.

128. A polymer as defined in claim 127, wherein R¹ is hexyl or 2-
10 ethylhexyl.

129. A polymer as defined in claim 128, wherein R¹ is 2-ethylhexyl.

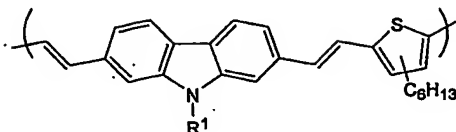
130. A polymer as defined in claim 129 having the formula:



wherein "n" is an integer ranging from 5 to 100.

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131. A polymer as defined in claim 100, comprising monomeric groups of the formula:

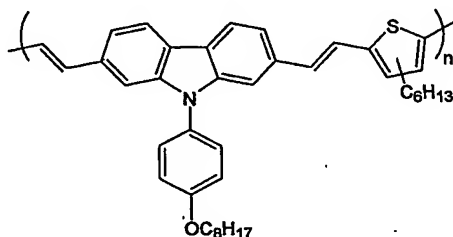


wherein R¹ is selected from the group consisting of H, alkyl, and aryl.

5 132. A polymer as defined in claim 131, wherein R¹ is aryl.

133. A polymer as defined in claim 132, wherein R¹ is 4-octyloxyphenyl.

134. A polymer as defined in claim 133 having the formula:



10 wherein "n" is an integer ranging from 5 to 100.

135. A composition comprising the oligomer and/or polymer of claims 44-134.

136. An electronic device comprising a film or coating comprising the oligomer and/or polymer of claims 44-134.

15 137. The electronic device of claim 136, configured as a light-emitting diode.

138. The electronic device of claim 136, configured as a field-effect transistor.

139. The electronic device of claim 136, configured as a solar cell.